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New Income Possibilities in Oregon Reviewed

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Any discussion of new income possibilities should be preceded by an analysis of the economy with which we are dealing and a discussion of the available resources which make new employment opportunities feasible.

The primary resource of a community is its people. Today, Oregon has about 1,630,000 resident, compared with 1,000,000 just before the start of World War II. fifteen years ago. Oregon's population has thus been growing at a very rapid rate. This, in itself, is very favorable to the expansion of income and new enterprise. A rapidly growing population means the creation of expanding markets and the need for all types of facilities, public and private, to take care of this growth. In areas where the population is expanding we would expect a relatively large employment in construction and a large volume of sales, particularly of consumer durable goods. We would also expect new industries such as the manufacturing of certain types of equipment for the farm and home and of certain types of processed foods.

Oregon's population is concentrated in a relatively small part of the state. The area west of the Cascade Range, only 31 per cent of the area, has 85 per cent of the population. Here we find a mild climate, Douglas-fir forests, and fertile soils with sufficient moisture to justify diversified agriculture. The Columbia River and the Willamette offer easy transportation. It is in the area west of the Cascades that we find most of the lumber activities, diversified manufacturing, and large wholesale and retail trading centers. East of the Cascades are the vast wheat and cattle regions, a lumber industry dependent primarily on Ponderosa pine, and some food processing near irrigation areas with diversified crop production.

Increased development of the area east of the Cascade Range would be of benefit to the state as a whole. One of the opportunities here lies in further agricultural development. Oregon had 1,300,000 acres of cropland irrigated in 1950; there are some opportunities for increasing this development, although at the present time they are not great. In the long run, however, we can expect an increase in population in the United States and an even greater percentage rise in the West, which will require more farm products. According to Bureau of Census estimates, for every four people sitting down at our dinner table today there will be five within twenty five years.

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Rapid Strides Made in Oregon Forest Conservation

By GEORGE H. SCHROEDER
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The subject of forest resources is so important in the picture of conservation in Oregon that one has to be apologetic about the statistics available for use. The Timber Resource Resurvey being carried on by the U. S. Forest Service is as yet incomplete, and the Forest Service Reappraisal figures of 1945 are very much out of date because of changes in use of the resource. By combining the available material from the current survey with figures on the old, however, one can obtain some idea of the basic volumes.

Of the 29 million acres and more of forest land in our state, more than 26 million acres are considered commercial forest land. Somewhat less than 12 million acres of this is in old-growth timber, roughly 4.75 million acres in second-growth, 4 million acres in poles, 2.5 million in seedlings and saplings, and 3 million in recent cutovers and in poorly stocked and non-stocked lands.

The 1945 Reappraisal showed a total stand of merchantable timber of all species in Oregon of 331 billion board feet plus. Of this 300.4 billion was west of the summit of the Cascade Range and 30.9 billion board feet east of the Cascades.

The 1945 Reappraisal was largely a statistical compilation, using the 1933 survey figures as a base and deducting the known cut and loss. Since utilization standards have changed radically over the years, these figures have long been known to be out of line, and a resurvey has been undertaken to secure reliable figures based on measurements which take into account present utilization standards and conditions presently existing. Some of this work has been completed, and offers an opportunity for revision of over-all estimates based on the findings in sample areas.

The five southwestern Oregon counties, for example, were estimated in 1933 to have a total volume of 128 billion board feet of timber. The new survey as of 1952 reports 152.5 billion board feet after a cutting depletion of 15.25 billion board feet. Another sample—Clatsop County at the other end of western Oregon—shows a present inventory of 6.5 billion board feet as compared with approximately 5 billion in a 1947 bookkeeping estimate based on the 1933 survey. It seems safe to assume that, when the "on the ground" timber resource reappraisal is complete, we will find that we have close to 500 billion board feet of merchantable standing volume in the state.

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Rapid Strides Made in Oregon Forest Conservation

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This increase in volume is to a small extent due to large acreages of small material growing into the measurable volume class; much of it is due to the change of minimum diameter measured from 15 inches to 11 inches; the greater part, however, is due to change in estimation in recognition of the far greater utilization in our present forest industry. This is real conservation of resource.

With a total lumber production of some 40 billion board feet in the United States and a probable production of 8 to 10 billion per year in Oregon, we can expect our present volume of timber to last for fifty years without consideration of growth. Growth, however, is a dynamic factor, as shown by the 1,241 million board feet of growth per year presently being added in the southwestern Oregon unit, according to the 1952 survey. Furthermore, each acre that is taken out of old-growth and restocked with trees adds to the increasing growth.

As a basis for estimates of what we might expect if our readily accessible and high-site commercial forest lands were under intensive forest management, we might look at results obtained by Danish foresters with our own Douglas-fir on Danish forest soil. The second-growth management report published by the U. S. Forest and Range Experiment Station shows that, by actual measurement, the Danes more than doubled production by application of intensive forest management consisting of full utilization of the site and careful thinning starting at twenty years of age. This would indicate that our total production potential from Oregon's forest lands with intensive management on approximately 50 per cent of our commercial forest land which is readily accessible and of high-site quality, and extensive management on the other half of the lands, would total in the neighborhood of 14 billion board feet.

Intensive management presupposes tight control over forest fire, insects, and disease and also salvage of all losses as they occur. Such management also requires access to all portions of the forest acreage and poses the problem of construction of a tremendous network of utilization roads. Production would be of all species, though the larger portion of the total would be from Douglas-fir, Ponderosa pine, and Western hemlock. It is interesting to note that our present technology is such that we can make good use of all native woods if market demand allows it.

Conservation of our timber resource has become a fact in the last twenty years. Beginning in 1941, the tree-farm program has revolutionized thinking on forestry. Seventy-four tree farms had been certified and dedicated to permanent production of forest crops as of January of this year. A total area of 1,665,228 acres is involved, and the movement is still surging forward. Such prevention aids as the Keep Green and Smokey Bear programs have awakened all our people to the need for care with fire. We have cooperative projects for insect control, and we are aware of the sanitary measures needed to keep our tree disease losses within reasonable bounds.

The Oregon Forest Conservation Act requires the leaving of seed sources for regeneration of the stand after logging. Together with our fire-protection laws and the growing knowledge of the need for conservation of resources by the general public, the act is resulting in continuing improvement in forest practices. Survey statistics show a better than 50 per cent reduction in nonstocked lands in the last eighteen years. The forest industry has planted 100,000 acres since 1941.

The big forward step in the conservation field, however, has been in utilization. It used to be that more wood was sometimes left on the logging area than was taken out. Cheap stumpage, high costs in logging railroads and logging camps, coupled with ruinous tax programs and intense competition for the lumber market, resulted in "creaming" of the stands for timber which would pay its way. Use of wood-burning locomotives and yarders, with the attendant great fire risk, forced the burning of mountains of broken and discarded material, in an effort to provide some measure of safety in the logging operation. This combination of circumstances, beyond the control of the operator, caused incomplete utilization and made forest management by the private investor impossible. The acts of Congress designed to put resources in the hands of the people in order to develop the West, coupled with the local tax programs, forced distress timber on the market at a price far below replacement cost. Practice of forestry while fine-grained Yellow fir was selling for 50 cents per thousand just didn't make sense.

Sometime in the 1930s the picture changed. Distress timber became largely a thing of the past, and expansion of the pulp and paper industry in the state made assurance of raw material a necessity in order to protect the tremendous capital outlays in processing plants. Stumpage prices started up and forest management beyond the field of fire control had its beginning.

World War II resulted in a great demand for forest products, together with limitation of facilities and labor for production. Relogging of accessible cutovers became an important activity. Relogging is currently furnishing well over a half billion board feet annually; slash is being picked over, snags are cut down and used, and cull logs are examined for peeler blocks and pulp values. The elimination of wood-burning equipment has decreased the fire risk in red slash; modern power saws have made prospecting for values in cutovers possible, and modern transportation has enabled the industry to go into forgotten back roads for salvage values and for small patches of timber that two decades ago wouldn't have paid the costs of capture. Dozens of small truck loggers are combing the great Tillamook Burn and hauling out millions of feet each year of material already written off as a loss. This is real conservation.

Technology has shown the way to the utilization of ply logs down to six-inch cores; logs are being turned into plywood that wouldn't make lumber a few years ago. Peeler

logs in Europe have come from second-growth stands for many years. Small, tight, green knots do not seriously affect strength qualities, and either clear veneers or impregnated paper overlays make a very attractive product. The industry is learning to adapt to the needs of the times; conservation of the base resource is the result.

One of the newest developments in conserving wood material is the chipping of leftovers for use in pulp or board plants. As much as 40 per cent of the wood used in one paper mill and 25 per cent in another come from such chips. Wallboards of both the hard and soft type, insulating board, refrigerator liners, accoustical tile, and chip board are coming from leftovers formerly burned. A new board mill using White-fir chips went into production this month in the Klamath Falls area.

Gradually also, leftovers of the pulp industry are appearing in commercially valuable products. Soil conditioners such as Orzan, extenders for cement, vanillin from sulfite effluent, and even ethyl alcohol are assuming importance as recovery for waste. Bark products are also appearing in the form of molding powder for plastics, wax, tannin, and extenders. We are learning to use and conserve a larger and ever larger proportion of the material grown on our forested acres.

The field of forest management has long included salvage of insect-killed and "high insect risk" trees in the Ponderosa pine region. This logging of high-value trees that would otherwise be lost has extended the period of time in which old-growth material will be available to the industry. Capture of volume that would otherwise rot and be lost has meant a far greater total yield from the region. Recently such operations have been tried on a small scale in western Oregon forests for the recovery of extensive but scattered volumes blown down by wind and killed by insects or disease. Ten to fifteen thousand feet per acre may well be recovered in such operations. For every five to ten acres so treated, one less acre need be clear-cut. Moreover, the standing green trees in the residual stand may well be able to show net growth under such a program, while stands not so treated actually lose volume. If such salvage work should spread and become general practice in western Oregon forests, it could become the source of a great additional supply of logs.

Perhaps potentially the greatest timber conservation movement now becoming established in our Oregon forests is the thinning program in second growth stands. The pulp mills have found that second-growth has real advantages, namely: (1) Second-growth hemlock and Douglas fir give higher pulp yields by both unit weight and volume measure than old-growth. (2) Both second-growth hemlock and Douglas fir, used in kraft pulping, give higher yields, slightly higher bursting strength, slightly lower tear resistance, and slightly higher brightness in bleaching than corresponding old-growth. (3) The U. S. Forest Service Laboratory at Madison, Wisconsin has shown 6 to 7 per cent higher yields for either sulfite or kraft cooking of second-growth over old-growth. (4) Sapwood gives about 5 per cent higher pulp yield than heartwood in both sulfite and kraft pulping.

By initiating thinning as early as feasible (25-30 years on better sites), the volume that would ordinarily be lost through competition of stems is taken out and used instead of being left to rot. Moreover, the thinning of 12 to 15 per cent of the stems results in rapid growth of those remaining and big logs are produced in far less time. Not only is income derived early and often, but the capital investment in stumpage is maintained at approximately the minimum needed to fully utilize the site.

The field of conservation in forest resources would not be fully covered unless some mention was made of progress in reforestation. The use of staggered settings in old-growth timber has resulted in far more than adequate seed to reforest areas cut.

The use of improved rodent baits has allowed protection of the seed fall and growth of trees where formerly consumption of seed by rodent population (mainly the white-footed field mouse) prohibited regeneration of the stand.

The industry has learned to use the new tool of reforestation seeding by helicopter. In large areas with a high percentage of exposed mineral soil and shaded slopes, results have been encouraging. Some progress has also been made in sowing a shade crop with the forest seed to protect the new seedlings from the sun during the critical first few weeks after germination.

There is a growing awareness of the importance of protecting the upper few inches of our forest soil. There is less burning and an awareness of the dangers due to soil compaction. There is more attention to soil stabilization in logging-road construction, and a more general use of adequate permanent culverts and proper ballast.

The needs of forest management today may be summed up: (1) an access-road system to blanket the state's forest areas so that salvage and sanitation is possible; (2) more widespread use of salvage and thinning programs in all ages and in all stands where such methods are economically and silviculturally feasible; (3) careful analysis and adaptation of taxing to make forestry in all its phases financially profitable; (4) expansion of our tree nurseries so everyone who can and will plant trees can secure them at an attractive price; (5) implementation of the recent Federal forest loan legislation to make funds available at low interest rates for long periods of time to worthwhile forest projects.

New Income Possibilities in Oregon Reviewed

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In the west this large population increase may occur in half that period. It does not appear that we will have the same factors aiding us in increasing our food production in the next few decades as we have had since the first part of the present century. These factors have been mechanization of the farm, opening up of new lands in the West, increased use of fertilizers, and the development of synthetic fibers, which released land from fiber production to food production.

Our chief opportunity in Oregon over the next few decades appears to be in the reclamation of additional areas of arid land for food production and more intensive cultivation. Studies indicate that approximately 200,000 additional acres could be irrigated. There are also opportunities for expansion of sprinkler irrigation. In 1949, farmers irrigated 100,000 acres with sprinklers. The acreage has at least doubled since that date. With the use of sprinkler irri-

gation more production can be achieved from the same land.

Farm income in the state of Oregon is relatively high. Value of products sold in 1949 amounted to about $300 million, of which about one-third was from wheat, barley, oats, and other grain; one-fourth was from the sale of cattle, calves, and livestock other than poultry; dairying provided about one-eighth; and poultry and poultry products about one-tenth. As population grows there probably will be greater emphasis on vegetables and fruits, which for the most part require more intensive cultivation, and on poultry and dairying.

Nearly all the farms in Oregon today are electrified. I think it is interesting to note that in the 1950 Census over half the farms reported electric hot-water heating. This indicates that the farms as well as cities provide a large market for all types of electric appliances and equipment, the manufacture of which has been expanding in the Northwest and will continue to expand as population grows.

The principal single source of income in the state of Oregon is from our forests, and I anticipate that this will continue for a long time. Oregon contains over 300 billion board feet of commercial saw timber, about one-fifth the total in the United States. Since 1938, Oregon has led the nation in the production of lumber. The most recent data available is for 1952. In that year Oregon produced about 9 billion board feet, more than one-fourth of the nation's output. The lumber industry has expanded both extensively and intensively over the last twenty years. In other words, we are cutting more logs than we did twenty years ago, and, in addition, we are doing more with each log in producing finished products. This can be shown by some statistics of changes in the past ten years. Between 1940 and 1950, employment in the wood-based industries increased from about 50,000 to over 80,000 persons, or more than 60 per cent. Yet during that period log production increased by only 47 per cent.

Our pulp, paper, and paperboard production has been steadily increasing; we now produce about 4 per cent of the nation's pulp and 4 per cent of the paper and paperboard. We have twelve pulp mills and nine paper mills in the state. The capacity of the pulp mills is 1,700 tons per twenty-four hour day, of the paper mills a little less than 1,200 tons, and 133 tons a day for paperboard. Pulp mills have greatly extended the utilization of raw material. Before World War II, in Oregon and Washington, about 95 per cent of the raw materials came from merchantable logs. Today the proportion is less than 70 per cent. Waste from sawmills is hauled up to two hundred miles for utilization in the manufacture of pulp. The pulp mills are also using more of the log today than ever before. Hydraulic barkers result in less wood being wasted, and the use of log chippers has further cut down waste. In spite of greatly increased production, the pulp and paper industry today is generating less power from its waste than it did fifteen years ago, because of the fact that much of the waste that formerly went under the boilers now goes through the mill to produce pulp.

As the market has grown there has been increased emphasis on finished paper products. More of the pulp has been used in paper, and the paper has been converted into higher-grade products. We can expect a continuation of emphasis on higher-valued paper products.

Plywood has become an important industry in this region in the last twenty years. Today there are forty-six plywood plants in Oregon; twenty years ago there were only two, and at the start of World War II about nine. There have also been substantial improvements in the utilization of wood in the plywood industry. It not only takes lower-quality logs but by the use of underlays utilizes lower-grade veneers.

Another important technological improvement in the plywood industry has been the use of peelers which can peel the log down to a five-inch diameter (including the core) instead of thirteen inches, thus producing additional veneers from the same log. The increased use of local plywoods can be expected to continue, providing additional income sources for the region.

A relatively new wood industry in the area is hardboard. Today, Oregon has seven hardboard and softboard plants in operation and one under construction; ten years ago there was only one. Hardboard is another means of utilizing the waste from sawmills and plywood mills as well as lower-grade trees such as White fir.

A number of other opportunities exist for utilizing the wood now wasted at the mills and in the forests. The Oregon Forest Products Laboratory is doing considerable research in this field, but it is difficult to say which products will prove commercially feasible. A large company is now investigating the possibilities of producing wax from wood waste, utilizing a process developed at the Forest Products Laboratory. A plant was built during the war to make ethyl alcohol from wood waste at Springfield but it is now closed; the feasibility of the production of ethyl alcohol will probably depend to a large extent on finding a use for the byproducts from such a plant. A plant at Bellingham, Washington, producing ethyl alcohol from waste pulp liquors, found that its waste lignin could be processed and used to produce vanillin.

One hundred years ago the chemical industry depended to a large extent on wood as a raw material. Wood, however, was not a wholly satisfactory source for a growing industry because the raw material was becoming less available; so the industry gradually turned to coal and later to naturaly gas and petroleum for a large part of its raw material. Wood was relatively neglected for years. With the rapid growth of the chemical industry and the need for more chemicals, there has been an increased concern over the possibilities of getting additional chemicals from wood. In Oregon a wood distillation plant was opened at Klamath Falls, but was recently closed. Nevertheless, wood may again become an important chemical source, although it will never hold a place of dominance. One of the problems involved in these new types of development is the large capital investment. It is estimated that a well-integrated forest-products unit to get the most out of the forest resources, including timber, pulp, hardboard, and plywood, as well as the lumber itself, requires an investment of over

The publication of average food prices in the Oregon Business Review has been discontinued. The cost of computation was substantial and the Bureau of Business Research received little indication that they were of value of readers of the Review.

$100 million. A hardboard plant may require a capital outlay of five to six times that of the mill from which the waste is supplied. This region doesn't have the large accumulated capital we find in the Midwest and East, and consequently there is some reluctance to put capital into untried enterprise.

In spite of these obstacles, I am quite confident that the wood-based industries will provide large income twenty years from now than they do today, in spite of the fact that the timber cut will be less than it is today, as more and more operations go on a sustained-yield basis.

Oregon has potential opportunities in developing its many mineral deposits, most of which are complex or low grade. In 1952 the value of minerals produced in the state was $27 million, of which $20 million was sand, gravel, and clay. Two new industries are of particular note. Alumina clays are being smelted in a new plant at Springfield for the manufacture of silumin (a silicon-aluminum alloy). In addition to the clays, the process requires large amounts of wood waste and reduction in an electric furnace.

A $30 million ferronickel smelter started operations this year near Roseburg. Local ores containing 1½ to 2 per cent nickel are smelted in electric furnaces. About 95 per cent of the nickel in the ore will be recovered. It is my understanding that this is the first plant of its kind in the United States.

There are possibilities of electric-furnace smelting of rhodonite ores to produce silico-manganese and of chromite ores to produce ferrochromium. The iron ores found near Scappoose are another possible local mineral resource. The U. S. Bureau of Mines is experimenting at Albany with the utilization of these ores, which may become a basis for a small iron and steel industry in the Portland area. Oregon already has a small iron and steel industry but does not produce in sufficient volume to supply the local market. Its 1953 steel capacity, all electric furnace, was 110,000 tons a year. In addition, there is a large foundry capacity. Prospects for expansion appear favorable.

Chlorine, caustic soda, chlorates, ferroalloys, and calcium carbide are produced in the Portland area. Expansion of these and the growth of the chemical industry in Oregon appears favorable but depends to a large part on securing large amounts of low-cost power.

Another industry attracted to the region by low power rates is the aluminum reduction plant at Troutdale. A number of small aluminum fabricators have been established in Oregon in recent years. They manufacture a wide variety of products, including sprinkler-irrigation equipment, golf-bag carriers, truck and trailer bodies, and freezers. We can expect this type of activity to expand with the growth of western markets and the increase in the number of workers skilled in handling light metals.

Another opportunity in light metals is titanium, which requires about twice as much electric energy a ton of metal as aluminum. Requirements of titanium for defense are large; as much as 35,000 tons annually may be required in four or five years, compared with a 1953 production of 2,400 tons. The present technique of production by a batch process results in a high price, nearly $5.00 a pound, compared with 21 cents for aluminum. As the techniques improve, a growing industry in this area can be anticipated, using either local or imported ores and our low-cost power.

Oregon can boast of its internationally famous apparel industry. Bathing suits, sports clothing, and blankets manufactured here are sold throughout the United States and in foreign countries. Over 5,000 workers are employed in the textile and apparel industries. These industries should continue to expand.

General manufacturing will grow as increased population in the West provide enlarged markets. Many products now shipped in will be manufactured here. When natural gas becomes available, new industries should be encouraged if the price of the gas is in the medium range. Foremost possibilities are the manufacture of ammonia, urea, glass. One firm already has taken an option on a site near St. Helens for a possible ammonia plant and a glass manufacturer has a Portland plant site. Plastics and syntheic fibers are other possibilities.

In summary, Oregon's new income possibilities lie principally in more highly manufactured products from its existing resources, such as its forests, on utilization of its resources now dormant, such as its complex ores, and on new industries based largely on electric power and natural gas.

INDUSTRIAL WATER SUPPLIES

The Raw Materials Survey has recently published *Industrial Water Supplies of the Lower Columbia River Basin* (Resource Report No. 7), prepared by John W. Grehart of the RMS staff. This 16-page bulletin should prove of great value to persons interested in location of industrial firms whose operations depend upon the chemical content of available water. One of the great advantages of the lower Columbia River basin is that local water supplies are pure enough for most industrial purposes. Detailed tables showing the results of chemical analysis of public water supplies in the area are included.

One-third of the persons aged 65 or over in this country were receiving benefits under Old Age and Survivors Insurance and related programs at the start of 1953: 30 per cent were at work or were the wives of wage earners; 20 per cent were receiving public assistance; 12 per cent had personal income; 5 per cent were in public or private homes, hospitals, and other institutions.

Manufacturing. One of the most common indicators of changes of physical volume of manufacturing activity is the man hours of industrial production workers. October 1954 figures for Oregon were 8 per cent above those of 1953 (weekly average of 5,470 thousand to 5,075 thousand). This was due in part to an increase in workers from 130,800 to 136,400, and partly to a rise in the average weekly hours worked from 38.8 to 40.1. The workers covered are only those immediately concerned with production; the totals exclude administrative, supervisory, sales, technical, and office personnel. The figures are prepared by the Oregon Unemployment Compensation Commission.

Multnomah County Real-Estate Transactions. During October 1954 there were 979 real-estate transactions amounting to $8,610,818 in Multnomah County. Of these, 667 involved residences, the sales price of which was $6,398,410; 265 were vacant properties, $790,441; and 47 were business properties, $1,421,967. Additional figures are:

	Oct. 1954	*Sept. 1954*	*Oct. 1953*
Number of sales	979	1,091	1,102
Value of sales	$8,610,818	$8,976,569	$8,879,291
Number of mortgages	1,117	1,116	911
Amount loaned	$9,343,102	$10,319,200	$6,968,592
Number of sheriff's deeds	0	9	3
Amount of sheriff's deeds	0	$76,531	$8,213
Average residential sales price	$9,593	$9,507	$8,935

CURRENT BUSINESS TRENDS IN OREGON

Employment. The number of nonagricultural workers employed in Oregon declined 2.4 per cent (11,300) between mid-September and mid-October, 1954. The major reduction was in canning and preserving (7,400). Other drops occurred in contract construction (1,200), retail trade (2,000), and service (1,400). There were a few increases: state and local governmental employes (1,400) and lumber and wood products (1,100). The 2.4 per cent decline compares with a 3.4 per cent drop between September and October, 1953. Employment this October was 0.7 per cent less than in October a year ago.

	Oct. 1954	*Sept. 1954*	*Oct. 1953*
Lumber and wood products	86,600	85,500	81,500
Food and kindred products	20,300	27,600	22,100
Other manufacturing	41,400	42,000	43,600
Total manufacturing	148,300	155,100	147,200
Contract construction	24,900	26,100	26,700
Retail trade	78,800	80,800	81,000
Government	74,000	72,600	70,900
Other nonmanufacturing	145,700	148,400	149,300
Total nonmanufacturing	323,400	327,900	327,900
Total nonagricultural employment	471,700	483,000	475,100

Banking. Recent trends in Oregon banking can be gathered from the following figures (in millions of dollars):

	Oct. 27, 1954	*Sept. 29, 1954*	*Oct. 28, 1953*
Loans	$ 640	$ 635	$ 621
Investments	735	701	610
Deposits	1,558	1,512	1,423

Lumber. Production of Douglas-fir lumber in the Pacific Northwest was greater in October 1954 than in either the preceding month or the same month in 1953. However, production exceeded orders and shipments, with the result that during October unfilled orders declined and inventories rose. Employment figures indicate that Oregon mills produced more lumber in October than in September. Statistical data compiled by the West Coast Lumbermen's Association follow (all figures in thousands of feet, board measure):

	Oct. 1954	*Sept. 1954*	*Oct. 1953*
Average weekly production	212,643	176,713	190,759
Average weekly orders	190,883	155,502	187,828
Unfilled orders, end of the month	717,843	777,792	715,137
Lumber inventory, end of the month	839,678	808,236	1,033,405

Department-Store Sales. The only retail-sales indicator for Oregon is changes in the dollar volume of Portland department stores as compiled by the Federal Reserve Bank of San Francisco. This indicator has been fluctuating above and below the level of a year ago, but has been, for the most part, below. Comparisons for Portland and other Pacific Coast cities, showing changes from the same period last year, are shown below:

	Week Ending Nov. 18, 1954	*4 Weeks Ending Nov. 18, 1954*	*Calendar Year to Nov. 18, 1954*
Portland	0	−1	−3
Los Angeles	+7	−1	−1
San Francisco-Oakland	+5	−2	−2
Seattle	+5	+4	0
United States	−2	+4	−2

BANK DEBITS

Bank debits represent the dollar value of the checks drawn against individual deposits. Payment for approximately 90 per cent of all goods, property, and services is by check. Bank debits are regarded as indicators of the general trend of business, although their value for this purpose may be impaired by substantial changes in the level of prices. The Bureau of Business Research collects bank deposits from 124 banks and branches monthly. On occasion, the totals for the same month in different issues of the *Review* are not directly comparable because of necessary adjustments in basic data.

Marketing Districts	*Number of Banks Reporting*	*Debits Oct. 1954*	*Debits Sept. 1954*	*Debits Oct. 1953*	*Oct. 1954 Compared with Sept. 1954*	*Oct. 1954 Compared with Oct. 1953*
Oregon	119	$1,344,317,177	$1,320,197,674	$1,296,775,851	+ 1.8	+3.7
Portland (Portland, Hillsboro, Oregon City, etc.)	32	822,737,027	806,684,691	772,842,304	+ 2.0	+6.5
Lower Willamette Valley (Salem, McMinnville, etc.)	15	113,116,271	102,995,884	116,920,211	+ 9.8	−3.3
Upper Willamette Valley (Albany, Corvallis, Eugene)	17	127,634,810	130,400,922	122,490,860	− 2.1	+4.2
North Oregon Coast (Astoria, Tillamook, etc.)	5	22,567,862	23,177,530	24,981,851	− 2.6	−9.7
Douglas, Coos, Curry counties	9	45,564,089	43,518,874	45,433,208	+ 4.7	+ .3
Southern Oregon (Ashland, Medford, Grants Pass)	6	57,919,234	59,693,070	58,890,184	− 3.0	−1.7
Upper Columbia River (The Dalles, Hood River, etc.)	7	28,159,845	29,388,901	29,523,266	− 4.2	−4.6
Pendleton area	6	26,867,303	27,373,210	25,570,521	− 1.9	+5.1
Central Oregon (Bend, Prineville, Redmond)	5	23,648,723	20,952,313	21,311,450	+12.9	−2.7
Klamath Falls, Lakeview area	5	31,767,273	33,067,082	31,198,270	− 3.9	+1.8
Baker, La Grande area	7	26,439,731	24,971,446	28,106,534	+ 5.9	−5.9
Burns, Ontario, Nyssa	5	17,894,979	17,973,751	16,503,892	− .4	+8.4

BUILDING PERMITS

Building permits give an indication of building operations planned rather than actual construction under way. Care must be taken in interpreting these data to allow for the lag which may elapse between the issuance of the permit and the beginning of actual construction. The data have been collected by the Bureau of Business Research.

	New Residential Oct. 1954	*New Nonresidential Oct. 1954*	*Additions, Alternations & Repairs Oct. 1954*	*Totals Oct. 1954*	*Totals Sept. 1954*	*Totals Oct. 1953*
Albany	$ 33,000	$ 21,200	$ 3,450	$ 57,650	$ 91,700	$ 37,400
Astoria	11,992	900	28,500	41,392	58,896	66,750
Baker	35,280	4,700	950	40,930	78,850	41,110
Bend	21,300	2,325	26,475	50,100	59,700	7,400
Coos Bay	.....	48,225	21,575	69,800	100,805	30,410
Corvallis	433,000	14,075	10,575	457,650	109,160	72,316
Eugene	372,300	118,890	50,681	571,871	303,930	200,865
Forest Grove	36,000	12,000	5,225	53,225	17,895	53,900
Grants Pass	81,870	15,100	13,910	110,880	45,075	29,285
Klamath Falls	40,000	.....	31,275	71,275	372,414	71,200
La Grande	19,000	250	8,162	27,412	70,394	14,779
Medford	143,413	8,130	27,385	178,928	155,214	141,724
Milton-Freewater	9,000	100	50,850	60,250	63,300	27,200
North Bend	.....	19,800	5,759	25,559	15,190	33,415
Oregon City	59,850	.....	11,925	71,775	113,602	17,300
Pendleton	34,000	26,100	5,400	65,500	72,782	138,275
Portland	1,731,500	2,881,920	1,061,860	5,675,280	5,296,180	4,105,270
Roseburg	29,500	1,700	24,105	55,305	251,419	301,509
Salem	183,100	199,600	99,700	482,400	2,762,500	545,969
Springfield	63,100	80,000	20,850	163,950	113,550	56,700
The Dalles	57,600	1,750	4,790	63,540	69,192	381,484
21 other communities	368,180	307,191	48,716	724,087	852,889	487,876
Totals	$3,762,365	$3,794,256	$1,562,118	$9,118,759	$11,101,697	$6,865,388